Appendix E

```
' ***** LCD PANEL *****
' PIC16F819

'* SET UP BASIC ENVIRONMENT
        DEFINE CHAR_PACING 1000

' PORTA.0 = CURRENT SENSE
' PORTA.1 = POT
' PORTA.2 = THERMISTOR
' PORTA.3 = VOLTAGE SENSE
' PORTA.4 =
' PORTA.5 =

' PORTB.0 =
' PORTB.1 =
' PORTB.2 = NPN
' PORTB.3 = FORMERLY NPN
' PORTB.4 = PNP
' PORTB.5 =
' PORTB.6 =
' PORTB.7 =

'****************************************************************
'*                                                            *
'*                       ENVIRONMENT                          *
'*                                                            *
'****************************************************************


        DEFINE CHAR_PACING 1000

'****************************************************************
'*                                                            *
'*                       VARIABLES                            *
'*                                                            *
'****************************************************************

N        VAR    BYTE
X        VAR    BYTE
Y        VAR    BYTE
Z        VAR    BYTE

X2       VAR    WORD
Y2       VAR    WORD

MISCF    VAR    BYTE    BANK0

LCNT     VAR    BYTE
VOLTS    VAR    WORD
VOUT     VAR    WORD
CURRENT  VAR    WORD
AMP      VAR    WORD
TEMP     VAR    WORD

VIDLE    VAR    WORD
VMAX     VAR    WORD

POTBUF   VAR    WORD(8)
ACNT     VAR    BYTE

ALOOP    VAR    BYTE
ELOOP    VAR    BYTE
PVOLT    VAR    WORD
OTIME    VAR    WORD    BANK0

BUCK     VAR    BYTE

ssave    VAR BYTE BANK0 SYSTEM
psave    VAR BYTE BANK0 SYSTEM
wsave    VAR BYTE $20 SYSTEM
wsave1   VAR BYTE $A0 SYSTEM
```